

REMARKS

Claims 1-22 are pending in this application. By this Amendment, claims 1-9 are amended and claims 20-22 are added. No new matter is added. Reconsideration based on the above amendments and following remarks is respectfully requested.

I. Allowable Subject Matter

Applicants gratefully acknowledge that the Office Action indicates that claims 2, 6-8, 11-13 and 16-18 include allowable subject matter. Specifically, the Office Action indicates that claims 2, 6-8, 11-13 and 16-18 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Amended claims 2, 6 and 7 each include the features of amended independent claim 1. No new matter has been added. Thus, it is respectfully submitted that claims 2, 6 and 7 are distinguishable over the applied prior art. Claims 11-13, 16-18 and 20-22, which depend from claims 2, 6 and 7, are likewise distinguishable over the applied art for the reasons discussed as well as the additional features they recite.

II. The Claims Satisfy All Formal Requirements

Claims 1-9 are amended to correct informalities. No new matter has been added.

III. The Claims Define Allowable Subject Matter

The Office Action rejects claims 1, 3-5, 9, 10, 14, 15 and 19 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,445,718 to Muto (hereinafter "Muto") in view of U.S. Patent No. 5,557,608 to Calvignac et al. (hereinafter "Calvignac"). This rejection is respectfully traversed.

Muto does not disclose a processing section permitting packet transfer by the second start command regardless of characteristics of the first start command and characteristics of the second start command, as recited in claim 1.

Instead, Muto discloses a link/transaction layer integrated circuit 10 including a transaction layer circuit 120 and a transport data interface circuit 121. See Figs. 1 and 2. The transaction layer circuit 120 has the function of automatically transmitting and receiving the data of computer peripherals as asynchronous packets based on SBP-2-2 (Serial Bus Protocol-2) standard. See col. 6, lines 16-20. The transaction layer circuit 120 divides the transmission data into one or more blocks of data so that it can be divided to packets according to the SBP-2 standard in the request packet generation circuit 122 of the transaction layer circuit 120. See col. 8, lines 18-27.

Muto also discloses that the transport data interface circuit 121 performs arbitration transmission or reception of data between the HDD controller 30 and the request packet generation circuit 122 and the response packet decode circuit 123. See col. 6, lines 44-47. Further, Muto discloses that a response used FIFO 125 stores the received data transmitted from the host computer side through the 1394 serial bus BS. See col. 7, lines 20-22. Then, the FIFO outputs a signal S125 indicating the remaining amount of the memory to the transaction controller 126. See col. 7, lines 22-25. When the remaining memory amount is less than the maximum length the data maxpl, the output of the request packet to the link core will be suspended until the remaining memory amount becomes larger than a maximum length of the data maxpl. Namely, the transmission of the request packet to the other node will be temporarily stopped. See col. 7, lines 41-51.

In other words, the output of the request packet depends on the remaining amount of memory and the maximum length of the data packet. Thus, Muto does not disclose a processing section permitting packet transfer by second start command regardless of characteristics of the first start command and characteristics of the second start command.

The Office Action admits that Muto does not disclose that a processing section instructs first continuous transfer for series of packets; and when the processing section

instructs second packet transfer while the continuous packet transfer process is being executed, for waiting until one transaction or one packet transfer of the first continuous packet transfer has been completed then permitting second packet transfer.

The Office Action asserts that these deficiencies are made up by Calvignac. However, Calvignac does not make up for the deficiencies of Muto. Specifically, Calvignac does not disclose the asserted features. Further, Calvignac does not disclose the processing section permitting packet transfer by second start command regardless of characteristics of the first start command and characteristics of the second start command.

Instead, Calvignac discloses a scheduler 20 that implements a policy to forward packets to an output trunk. See col. 3, lines 42-46, and Fig. 1. Calvignac discloses that real-time traffic is given priority over non-real-time traffic in order to reduce its delay. Non-real-time traffic is considered as low priority traffic. Depending on the trunk speed, the scheduling policy is either preemptive or non-preemptive. See Calvignac, col. 3, lines 51-60.

In the case of the non-preemptive policy, the buffer with the lower priority class is served only if the buffer with the highest priority class is empty, and the service of the low priority packet is not interrupted even when a high priority packet arrives before the end of the service. This policy is used on all lengths for which the service time of a maximum-length non-real-time packet is less than 1.5 ms. See Calvignac, col. 3, line 61-col. 4, line 1.

In the case of a preemptive resume policy, the buffer with the lower priority class is served only if the buffer with the highest priority class is empty, and the service of the low priority packet is interrupted when a high priority packet arrives before the end of the service. This policy is used on all lengths for which the service time of maximum-length non-real-time packet exceeds 1.5 ms. See Calvignac col. 4, lines 4-12. Thus, in Calvignac, whether a non-preemptive policy of interrupting packets is determined based on trunk speed of a maximum-length non-real-time packet. In other words, the output of the second request

packet depends on the remaining amount of memory and the maximum length of the data packet.

The specification of the present application disclose the operation of the arbitration circuit 400 with reference to the timing. See Figs. 21-23. If HWStart (the first start signal) goes active before FWStart (the second start signal), HW transfer starts first then the FW transfer starts after one transaction of the HW transfer has been completed. When the FW transfer is completed, the HW transfer restarts. See page 38, lines 19-22, page 40, lines 1-5 and Fig. 21.

The specification of the present application also discloses that if the HWStart and the FWStart signals become active together (at the same timing), then the FW transfer is given priority and is started first. See page 40, lines 6-21, and Fig. 22.

Then, the specification of the application discloses that if FWStart goes active before HWStart, the FW transfer starts first. When the transfer of one packet has been completed by the FW transfer, the HW transfer starts. Thus, the FW transfer starts first, then the HW transfer starts after the FW transfer has been completed. See page 40, line 22-page 41, line 7, and Fig. 23.

Therefore, regardless of whether HWStart or FWStart goes active first, when the other signal goes active afterwards, the continuous packet transfer of the first starting one is interrupted by the activation of the other signal regardless of the characteristics of the FWStart or HWStart signals. Calvignac does not disclose this feature.

Neither Muto nor Calvignac, alone or in combination, disclose a processing means permitting packet transfer by second start command regardless of characteristics of the first start command and characteristics of the second start command.

For at least these reasons, it is respectfully submitted that claim 1 is distinguishable over the applied art. Claims 3-5, 9-10, 14-15 and 19, which depend from claim 1, are

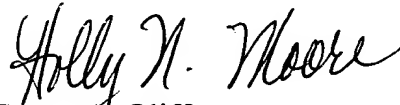
likewise distinguishable over the applied art for at least the reasons discussed as well as for the additional features they recite. Withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

IV. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-19 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachment:

Amendment Transmittal

Date: May 25, 2004

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